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10/785,407

02/25/2004

Govindarajan Krishnamurthi

60282.00168

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EXAMINER

FARAGALLA, MICHAEL A

ART UNIT

PAPER NUMBER

2617

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/785,407	<b>Applicant(s)</b> KRISHNAMURTHI, GOVINDARAJAN	
	<b>Examiner</b> MICHAEL FARAGALLA	<b>Art Unit</b> 2617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-10 and 12-20 is/are rejected.
- 7) ☒ Claim(s) 6 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/7/2008 has been entered.

### ***Response to Arguments***

1. Applicant's main argument with respect to claims 1-20 is that Norefors fails to teach an access router. While Norefors et al show a fixed network (figures 1 and 2; column 1, lines 10-20) which includes Internet (which must contain routers), the examiner has modified the previously presented rejection in order to further clarify the point of view of the Examiner.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 8, 13, 17, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Norefors et al (Patent number: US 6,370,380)** in view of **Frid et al (Patent number: 6,137,791)**.

Consider **Claims 2 and 19**, Norefors et al show a method comprising:

- (a) Generating a token by a first access point to which the mobile node was previously attached (figure 2; column 4, lines 30-40); (the old access point sends a token to the mobile device containing information about the old access point).
- (b) Sending the token from the first access point to the mobile node within a message comprising a list of candidate access points (figure 2; column 4, lines 30-40); (the old access point sends a token to the mobile device containing information about the old access point as well as information about the new access point).
- (c) Sending a token from the mobile node to a second access point as selected candidate after handover procedure between the first and second access points (figure 1; column 4, lines 45-67); (the mobile device sends a message to the new access point in order to decipher items within).
- (d) Sending the token within an exchange between the access points specific to a candidate access point discovery procedure from the second access point back to the first access point for verification (column 3, lines 60-67; column 4, lines 1-23).

However, Norefors et al show access points, but do not specifically show access routers.

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In related art, Frid et al show the access routers (see figures 3 and 5); (access routers in this case are read by the examiner as the GPMSC and VPMSC communicate with other networks (other routers)).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Frid et al into the teaching of Norefors in order to allow the mobile terminal to roam between data packet networks (see Frid et al; abstract).

Consider **Claims 8 and 13**, Norefors et al show a system, as well as an apparatus comprising:

- (a) A first point, said mobile node and a second access point (see figure 1).
- (b) Wherein, the first access point includes a generating unit configured to generate a token, first sending unit configured to send the token to the mobile node within a message comprising a list of candidate access points (figure 2; column 4, lines 30-40); (the old access point sends a token to the mobile device containing information about the old access point).
- (c) Wherein the mobile node includes second sending unit configured to send the token to the second access point as selected candidate after a handover procedure between the access points (figure 1; column 4, lines 45-67); (the mobile device sends a message to the new access point in order to decipher items within).
- (d) The second access point includes third sending unit configured to send the token within an exchange between the access points specific to a candidate access point discovery procedure back to the first access point and a verification unit configured to verify the token (column 3, lines 60-67; column 4, lines 1-23).

However, Norefors et al show access points, but do not specifically show access routers.

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In related art, Frid et al show the access routers (see figures 3 and 5); (access routers in this case are read by the examiner as the GPMSC and VPMSC communicate with other networks (other routers)).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Frid et al into the teaching of Norefors in order to allow the mobile terminal to roam between data packet networks (see Frid et al; abstract).

Consider **Claims 17 and 18**, Norefors et al show a system comprising;

- (a) A first access point said mobile node and a second access point (see figure 1), wherein, the first access point includes generating means for generating a token, first sending means for sending the token to the mobile node within a message comprising a list of candidate access points (figure 2; column 4, lines 30-40); (the old access point sends a token to the mobile device containing information about the old access point as well as information about the new access point).
- (b) The mobile node includes second sending means for sending the token to the second access point as selected candidate after a handover procedure between the access points (figure 1; column 4, lines 45-67); (the mobile device sends a message to the new access point in order to decipher items within).
- (c) The second access point includes third sending means for sending the token within an exchange between the access points specific to a candidate access point discovery procedure back to the first access point and verification means for verifying the token (column 3, lines 60-67; column 4, lines 1-23).

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However, Norefors et al show access points, but do not specifically show access routers.

In related art, Frid et al show the access routers (see figures 3 and 5); (access routers in this case are read by the examiner as the GPMSC and VPMSC communicate with other networks (other routers)).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Frid et al into the teaching of Norefors in order to allow the mobile terminal to roam between data packet networks (see Frid et al; abstract).

4. Claims **1, 3-5, 7, 9, 10, 12, 14-16, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Frid et al (Patent number: 6,137,791)** in view of **Norefors et al (Patent number: US 6,370,380)**.

Consider **Claims 1, 7, and 12** Frid et al shows a method, as well as a system and an access router comprising:

(a) Maintaining, by each of a plurality of access routers within a mobile internet environment, a cache of neighboring access routers as candidates (see figures 5 and 6; column 9, lines 22-37); (the access router of the visited network communicate information to the home network, a mobile IP environment in order to retrieve information, therefore, a memory that contains the addresses of other routers in other networks is present).

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- (b) Populating the cache with cache entries in response to actions initiated by mobile nodes (column 4, lines 36-48); (when a mobile travels into a geographical area, subscription data is stored regarding the mobile station).
- (c) Each cache entry is tagged with an identity of an action initiating mobile node, which identity is based on information that is verifiable by the access routers and which cannot be modified arbitrarily by the mobile node (read to be the IP address of the mobile terminal) (column 5, lines 10-15).
- (d) Wherein a total number of entries that can be tagged and thus introduced into a cache by any given node is limited (column 4, lines 36-48).

However, Frid et al does not specifically show that the method further comprising maintaining a cache of associated access points.

In related art, Norefors et al show the method further comprising maintaining a cache of associated access points (figure 2; column 4, lines 30-50); (the old access point sends a token message to the mobile device indicating the new access point).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Norefors et al into the teaching of Frid et al in order to protect the system against intruders (Norefors et al ; column 1, lines 40-50).

Consider **Claim 3**, Frid et al in view of Norefors et al show the method of claim 1, wherein the identity of the mobile node is an international mobile subscriber identity (IMSI) for cellular communication systems, and a network access identifier (NAI) for systems based on Internet Protocol (IP).



Consider **Claims 4, 9, 14 and 21**, Norefors et al show the method according to claim 1, as well as the system of claim 7, as well as the access router according to claim 12, wherein an action initiated by a mobile node comprises a handover procedure of the mobile node between a previous access router, said method further comprising: generating a token by the previous first access router; sending the token from the previous access router to the mobile node within a message comprising a list of candidate access routers; sending the token within a message specific to the discovery procedure from the mobile node to the new access router as selected candidate after the handover procedure, sending the token within a neighbor exchange between the access routers resulting in cache entries being created or refreshed from the second access router back to the first router access for verification (see figures 2 and 5; column 3, lines 10-30)..

Consider **Claims 5,10, and 15** Frid et al as modified by Norefors et al show the method according to claim 4, as well as the system of claim 9, as well as the access router of claim 14, but fail to specifically show that the token is generated by maintaining by the previous access router a short list of random values used as keys to hash the identity of the mobile node, each key in the short list is associated with an integer index that is passed along with the token, and wherein upon receiving the token for verification, the previous access router uses the integer index to lookup the associated key, hash the identity of the mobile node sent in the neighbor exchange and compares the hash to the token.

However, in related art, Norefors et al shows that the token is generated by maintaining by the previous access router a short list of random values used as keys to hash the identity of the

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mobile node, each key in the short list is associated with an integer index that is passed along with the token, and wherein upon receiving the token for verification, the previous access router uses the integer index to lookup the associated key, hash the identity of the mobile node sent in the neighbor exchange and compares the hash to the token (column 3, lines 46-67; figure 3).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Norefors et al into the teaching of Frid et al in order to protect communications (Norefors et al, column 3, lines 63-65).

Consider **Claim 16**, Frid et al as modified by Norefors et al shows the access router according to claim 15, but fail to specifically show that the generating means are configured to generate new keys with progressing time, to add them to the head of the list and remove old keys.

However, in related art, Norefors et al shows that the generating means are configured to generate new keys with progressing time, to add them to the head of the list and remove old keys (column 3, lines 60-67).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Norefors et al into the teaching of Frid et al in order to protect communications (Norefors et al, column 3, lines 63-65).

*Allowable Subject Matter*

5. Claims 6 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL FARAGALLA whose telephone number is (571)270-1107. The examiner can normally be reached on Mon-Fri 7:30 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/  
Supervisory Patent Examiner, Art Unit 2617

/Michael Faragalla/  
Examiner, Art Unit 2617

06/17/2008